SUMMARY

The Environmental Restoration Contract is managed by Bechtel Hanford, Inc. (BHI), and consists of the Remedial Action and Waste Disposal Project; Groundwater Management; Decontamination and Decommissioning; Surveillance/Maintenance and Transition Projects; the N Area Project; and Program Management and Support.

February was another successful month for the Environmental Restoration (ER) Project.

Remediation of contaminated soil sites progressed ahead of schedule. Remediation is in progress at the B/C and D Reactor sites in the 100 Areas, and in the 300 Area. Over 44,000 tons of contaminated soil were excavated and transported to the Environmental Restoration Disposal Facility (ERDF) in February. This exceeds the planning goals for the month. Over 2,400 shipments of waste were made, constituting nearly 39,000 miles traveled by the disposal trucks for the period. February's weather was unusually mild, which resulted in no time loss for transportation due to poor road conditions. Remediation of all 300-FF-1 process trenches is nearly complete. Documentation is being prepared for regulator approval to backfill and reclaim these areas.

Groundwater remediation activities continued, with five pump-and-treat units operating at levels exceeding planning goals. Nearly 80 million gallons of groundwater were processed during February.

Groundwater and Vadose Zone planning is underway. The ER Project is assembling a team to address vadose zone issues and integrate work between Hanford Site contractors. The planning approach document, *Management and Integration of Hanford Site Groundwater and Vadose Zone Activities* (DOE/RL-98-03, Draft A) was completed on February 13. Draft A included outlines and narratives for the development of a *Project Specification Plan*, *Project Management Plan*, *Cost and Schedule Baseline*, and the *Public Involvement Plan*. Reviews are expected in early March. Complementing delivery of the integrated approach were presentations to stakeholder groups on the proposed Groundwater/Vadose Zone approach. Presentations were made to TRIDEC on February 10; the Cultural Issues Committee on February 18; and the TWRS Partnering Group on February 19. The Hanford Advisory Board is also being apprised of Groundwater/Vadose Zone developments.

Decontamination and Decommissioning (D&D) work in February focused on Interim Safe Storage (ISS) of the C reactor, preparation for ISS of the F and DR reactors, and removal of equipment from the 233-S facility as it is prepared for demolition. D&D work is several weeks behind schedule, but recovery plans have been implemented.

Endpoint verifications for transition of the B Plant facility to the ER Project is about 50% complete.

Hardware removal continued as the N Basin and associated facilities were deactivated. Two additional monoliths were filled and transported to the ERDF for disposal. Sediment characterization was completed, with results that identified constituents as transuranic. This will require additional handling and disposal containers. Water removal and transport to the Effluent Treatment Facility (ETF) in the 200 Area remains as a critical item for meeting the schedule. Test runs to the unloading facility were made ensure unloading capability.

The N Basin scheduled completion date has been revised due to more extensive scope than anticipated. The ER Project is working with the regulators to extend Tri-Party Agreement milestone from April 1 to July 31,1998.

Through February the ER Project is $3.9 million (7 percent) behind schedule. This is due primarily to N Basin deactivation delays, rescheduling of technology demonstrations at the C Reactor, and the late start of the operational readiness review preparations at the 233-S demolition project. Costs through February are $3.9 million under budget as a result of remedial action efficiencies in the 100 Areas, reduced groundwater resin changeouts, and savings in surveillance and maintenance (S&M) activities.

There was one lost workday case in February, resulting from a back strain.

ACCOMPLISHMENTS

- **Remedial Action and Waste Disposal Project Highlights**

  Remediation of contaminated soil sites continued ahead of schedule. Over 44,000 tons of contaminated soil were excavated and transported to the ERDF in February. This exceeds the planning goals for the month. FY98 totals are 244,498 tons received. Since inception, 777,564 tons have been received.

  300 Area Remediation. Full scale remediation is again in progress, following the discovery of unexpected waste in a burial ground that caused a several month work suspension while characterization of the area ensued. 10,273 tons of excavated waste from 300-FF-1 were shipped to the ERDF during February. 21,504 tons of material have been removed and disposed in FY98. Since inception, 51,905 tons have been removed and disposed from 300-FF-1.

  Work at the 618-4 burial ground is progressing slightly ahead of the revised schedule. Debris and anomalous material continue to be found during the excavation. This material includes lead, barium, and containers with unknown liquids having elevated radiological levels. These materials are being packaged, stabilized, and set aside for future action to allow remediation work to continue.

Thirty-five containers of lead-bearing waste from the 1-D landfill were staged outside the ERDF trench pending disposition determinations.

B/C Area Remediation. B/C remediation is slightly ahead of schedule. Excavation of the soil and demolished concrete is about 30% complete at the 116-B-11 site. Sizing and splitting of pipe stored at the 116-C-5 retention basins was completed, and final grading is nearly complete. A final topographic survey of the retention basin area will be completed in March. Preparations for splitting pipe stored at the 116-B-1 process effluent trench were also completed.

17,170 tons of waste were excavated from the 116-B-11 and 116-C-5 retention basins in February. 115,614 tons of material have been removed and disposed in FY98. Since inception 413,664 tons have been removed and disposed from 100-B/C.

D Area Remediation. D Area remedial actions are ahead of schedule. Excavation of the 1607-D2 abandoned septic drain field was completed. Concrete demolition and rebar cutting continued throughout the month as fill-in work. Excavation work continued in the 116-DR-9 area.

Over 16,000 tons of waste were excavated from the 116-DR-9 retention basin and the 1607-D2 drainfield in February. 104,912 tons of material have been removed and disposed in FY98. Since inception 285,052 tons have been removed and disposed from 100-DR. The 1607-D2 drainfield, both the base area and plume, was completed.

200 Area Remedial Actions. All initial input and requirements for the *200 Area Implementation Plan* have been discussed with Tri-Party Agreement representatives, and a clear scope has been defined. A draft plan will be completed by May 8.

Analytical results from the 200-CW-1 waste site field characterization work have been received, and development of the *Borehole Summary Report* was initiated. The initial review of the data indicates contamination only in the upper 20-feet of soil. This is consistent with the preliminary conceptual model.

ERDF Expansion. With approximately 778,000 tons of soil disposed of in the ERDF, the facility is now nearly half full. Efforts to add two cells to the facility by late 1999 are underway. Design approval for construction of the new cells (# 3 and # 4) was received from the Environmental Protection Agency (EPA) on February 24. The leachate transfer line design was conditionally approved pending leachate delisting. The remaining design was approved with no conditions or qualifications. The request for proposal for the ERDF cells #3 and #4 site production was

completed and distributed for final reviews. The proposal is scheduled to be issued for bids in mid-March.

- **Groundwater Management Highlights**

  Groundwater remediation proceeded on schedule, with five pump-and-treat units operating at levels exceeding planned production goals. Nearly 80 million gallons of groundwater were processed during February.

  200-ZP-1 Vapor Extraction. 26,128,000 liters of groundwater were processed in February. 444 kg of carbon tetrachloride were removed. 125,432,000 liters have been processed for FY98 to date, with 2,022 kg of carbon tetrachloride removed. 404,140,000 liters have been processed from inception-to-date.

  200-ZP-2 Pump & Treat. The unit remains shut down for modifications; restart is scheduled for mid-March.

  N-Springs Pump & Treat. 8,412,000 liters of groundwater were processed in February, with 0.007 curies (Ci) of Strontium (Sr^{90}). 41,760,000 liters have been processed for FY98 to date (removing 0.038 Ci of Sr^{90}). 234,696,000 liters have been processed from inception-to-date.

  HR-3 Pump & Treat. 23,038,000 liters of groundwater were processed in February, with 3.7 kg of chromium removed. 108,544,000 liters have been processed in FY98 to-date; 12.7 kg of chromium has been removed. 182,333,000 liters of groundwater have been processed from inception to date, with 17.13 kg of chromium removed.

  KR-4 Pump & Treat. 19,418,000 liters of groundwater were processed in February, removing 2.5 kg of chromium. 91,418,000 liters have been processed for FY98 to date, with 11.5 kg of chromium removed.

  UP-1 Pump & Treat. 2,566,000 liters were processed in February. 27,301,000 liters have been processed for FY98 to date. 78,706,000 liters have been processed from inception-to-date at the ETF in FY98. 215,072,000 liters have been processed from inception-to-date.

  Vadose Zone Integration. The planning approach document (*Management and Integration of Hanford Site Groundwater and Vadose Zone Activities,* DOE/RL-98-03, Draft A) was completed on February 13. The draft included outlines and narratives for the development of a *Project Specification Plan*, *Project Management Plan*, *Cost and Schedule Baseline*, and *Public Involvement Plan*. Reviews are expected in early March.

Complementing delivery of the integrated approach were presentations to stakeholder groups on the proposed groundwater/vadose zone approach. Stakeholder groups requesting presentations included TRIDEC, on February 10; the Cultural Issues Committee, on February 18; and the TWRS Partnering Group, on February 19.

Well Sampling, Maintenance, and Decommissioning. Samples from 440 of 446 (99%) long-term monitoring wells have been collected this fiscal year. Three high risk wells were decommissioned in February. 15 RCRA high river wells on the north side of the Columbia River were also decommissioned. 21 wells have been decommissioned to date.

Interim Action Monitoring. The second period *100-HR-3 and 100-KR-4 Pump and Treat Systems and Operable Unit Quarterly Report* was issued on February 13. The *Aquifer Sampling Tube Completion Report: 100-Area and Hanford Townsite Shorelines, Rev. 0*, was also completed.

Long Term Monitoring. *The RCRA Phase I Groundwater Quality Assessment Reports* were completed.

- **Decontamination and Decommissioning**

D&D work in February focused on ISS of the C reactor, preparation for ISS of the F and DR reactors, and removal of equipment from the 233-S facility as it is prepared for demolition.

C Reactor ISS. Demolition work at the C reactor facilities continued in February. Structures demolished during this period included the northeast and southeast reactor structures, and the northeast and southeast sample rooms. The roof over the front face of the reactor and C elevator was removed in preparation for installation of the safe storage enclosure (SSE). Loose decontamination and fixative application activities were completed on the upper reactor area, as well as the fuel storage basin, laboratory #1, and tool dolly room. Other completed items included pipe removal from the sample room, distribution equipment removal, and transfer pit cover removal. Documentation was also completed including the *Sample Analysis Plan*, *Field Instruction Guide*, and four technology demonstration summary reports.

105-F and 105-DR ISS. The site operations trailers were set up this month as the project team prepared to begin demolition activities at the F and DR reactor ISS projects. RADCON access control equipment was also set up at both the DR and F reactors. The draft *Audible Safety Analysis/Final Hazard Classification* (ASA/FHC) for DR was completed and issued for review. Data Quality Objective (DQO)

workshops are being developed to advance the ISS planning process and address ongoing issues. Agreement was reached with the regulators on the DQO approach that will be used.

233-S Building Demolition Project. Removal of all equipment, asbestos, and inactive conduit was completed from the equipment room, SWP change lobby, and lavatory. Fixative was applied to these areas and they were re-posted as buffer areas. Over 1000 cubic feet of legacy waste and 29 boxes of non-process pipe gallery and equipment room waste were transported to the ERDF in February. Equipment staging was initiated for performing pre-job surveys in the process hood viewing room and loadout room. The *Sample Analysis Plan* was developed and transmitted for approval by *Tri-Party Agreement* representatives. Work packages associated with development of the operational readiness review are being developed.

- **Surveillance/Maintenance and Transition Projects**

Overall S&M activities were performed on or ahead of schedule in February.

REDOX/221-U Facility. The draft *REDOX Graded Safety Analysis Review* (SAR) was completed and issued for review. Preparation of safety evaluation documentation began for removal of the plutonium loadout hood at the REDOX facility. Draft work instructions were also completed. Waste from the REDOX roof repair was shipped to the waste disposal site.

224 Building. The *U Plant and 224-B Graded SAR* was completed. Development of a hazard analysis began.

105 KE/KW Reactors/B Reactor. 105 KE/KW electrical repairs were completed. Corrective actions were also completed at the 100B and 100 KE/KW sites. The engineering evaluation was completed for repair of the exterior block wall cracks at the 100-B reactor.

Canyon Disposition Initiative (CDI) Project. The functional test of the 221-U canyon crane needed for the CDI was completed. The public comment period on the *Canyon Disposition Initiative Phase I Feasibility Study* was completed, and comments were incorporated.

B Plant Transition. Endpoint verifications for transition of the B Plant facility to the ER Project is about 50% complete. 81 additional end point verifications were completed in February. 851 verifications out of 1,776 have been completed to-date.

The end state of the canyon deck has also been agreed to by the ER Project and the PHMC.

Preliminary Safety (Hazard) Analysis (PHA)/Final Hazard Classification (FHC). A contract was awarded for preparation of a reactor PHA/FHC.

- **N Area Project Highlights**

N Basin cleanout continued. The project schedule is being extended from April 1 to July 31 due to a 33% reduction in the number of tanker trucks the ETF can handle in a day. In addition, sediment characterization activities determined N Basin sediment to be transuranic, thereby increasing the disposal containers needed from 8 to 23 due to more extensive packaging requirements.

N Basin/107-N Dewatering. A test run of the water transfer from the N Basin to the 200 Area ETF was performed. Seven tanker loads (32,000 gallons) were transferred over a 20-hour period, using two tanker trucks. This showed a marked increase in productivity from the January test results of two tanker loads per day, but this is still less than the nine tankers per day that were originally planned. The increase is due to project team and ETF staff efforts to identify areas for improvement and resulting changes at the unloading facility by the PHMC contractor.

Approximately 27,000 gallons of water and sediment were transferred from the 107-N Basin Recirculation Facility to the N Basin North Cask Pit as the facility is being deactivated. The highly radioactive T-4 tank in the facility was also drained. Deactivation of the facility is scheduled for completion in March.

Hardware Removal. Removal of High Exposure Rate Hardware (HERH) and lower dose debris from N Basin continued in February. Monoliths #28 and #29 (of 31 total) were grouted and shipped to the ERDF for disposal. A Conex box containing other contaminated material was also shipped.

Removal and disposal of two air lift tools used for removing sediment and small debris from the N Basin floor was completed. The equipment was sent to the ERDF for disposal. Three high exposure spacer containers were also disposed.

Fuel Fragments Disposition. 41 pounds of fuel fragments were packaged into one remnant return canister. 252 pounds have been recovered to-date.

Radiation Shielding Installation. Work continued on removing interferences to shielding installation. Approximately 75% of the interferences have been removed.

Current planning calls for the contractor to begin installation of the concrete shielding in mid-March.

Cubicle Cleaning. Cubicle cleaning details and final cleaning criteria were discussed and agreed to with the regulators.

Sediment Removal. Final characterization of the N Basin sediment was completed. The sediment contains transuranic material that will require additional handling and disposal considerations. This completes the requirements for Tri-Party Agreement target milestone M-16-01E-T3. Sediment removal is scheduled to begin in May.

Other Activities. A study of the final deactivation configuration of the fission product trap was completed. It was determined that no further action is required. Ecology concurred with the finding.

Two draft *Occurrence Reporting Process System* (ORPS) reports were completed. These reports identify the differences in actual material quantities and characteristics from those issued in the authorization basis document.

- **Program Management and Support**

For FY98 year-to-date, 64% of ERC contracts were awarded to small businesses. This exceeded the small business socioeconomic contracting goal of 50%. Of these contracts, 39% were awarded to small disadvantaged businesses (vs. a goal of 7%). Contracts awarded to women-owned businesses constituted 13% (vs. the goal of 4%).

Letters of invitation were sent to the technical advisory group for the Innovative Treatment and Remediation Demonstration Strontium-90 Contamination Project. The project kickoff meeting will be held in March.

The ER Project received a letter of commendation from Dr. Walter L. Warnick, Director, DOE Office of Scientific and Technical Information (OSTI). The letter expressed OSTI's appreciation of the "outstanding assistance and technical expertise" provided by Publications and Graphic Services (P&GS) in assisting OSTI's progress with its Federated Collections Pilot Program. As one of only four DOE contractors selected to participate in the proof-of-concept phase of the pilot project, BHI was identified as "part of an outstanding team" that helped "improve the way we share and use scientific and technical information across the Department."

The Society of Technical Communication (STC) notified P&GS that its submission to the STC International Technical Art Competition received an Award of Excellence

from the judging panel, which reviewed entries from such organizations as Microsoft, Boeing, Lockheed, and other government contractors. The Award of Excellence was given to a RCRA Closure Poster, which was submitted in the category of poster design. The entry will be displayed during the four-day STC Annual Conference that will be held in Anaheim, CA, May 17-20.

The 1997 ALARA goals report was prepared and distributed to BHI Projects for posting. The total cumulative exposure for all of the ERC Projects was 61.5 person rem. This exposure was only 80.4% of the estimated ALARA exposure goal of 76.5 person rem.

ISSUES

- **N Basin Schedule Extension:** Offloading capability at the Effluent Treatment Facility (maximum 6 tankers per day) does not support the current schedule of 9 tankers per day. As a result, the schedule has been extended from 33 days to 45 days. In addition, sediment characterization determined the sediment to be transuranic, thereby increasing the disposal containers needed from 8 to 23. As a result of these issues, the current TPA milestone completion date of April 1 cannot be met.

- **Strategy/Status:** A Schedule extension from an April 1 to a July 31, 1998 completion date has been requested. Coordination meetings between RI, BHI, and ETF management continue. ER management is discussing issues with the regulators.

COST PERFORMANCE ($M)

	BCWP	ACWP	VARIANCE
Total ER Project	$55.4	$51.8	$3.6

The $3.6M (9%) favorable cost variance is within the ±10% variance threshold.

SCHEDULE PERFORMANCE ($M)

	BCWP	BCWS	VARIANCE
Total ER Project	$55.4	$59.4	($4.0)

The $4.0M (7%) unfavorable schedule variance is due primarily to schedule slippage at the N Basin and rescheduling various Decontamination and Decommissioning tasks.

MILESTONE EXCEPTION REPORT

Number/ WBS	Level	Milestone Title	Baseline Date	Forecast Completion Date

FORECAST DELAY – 5

M-13-11	**EA**	Submit 200-PO-2 Work Plan	6/30/98	Proposed
1.6.1.0.2				Deletion
	Cause:	Will be deleted and replaced by Tri-Party Agreement Milestone M-13-18.		
	Impact:	None.		
	Corrective Action:	None.		
M-20-33	**EA**	Submit 216-A-10 Crib and 216-A-36B	6/30/98	3/31/08
1.6.1.02	**Cause:**	Pending deferral due to revised 200 Area strategy.		
	Impact:	The completion date will be revised; there are no other impacts.		
	Corrective Action:	None.		
M-16-26A	**EA**	Initiate Remedial Action for 100-HR-1 OU	9/30/98	3/31/99
1.6.1.01	**Cause:**	Start date impacted by additional plumes found in the 100-BC-1 Area.		
	Impact:	The start date is delayed; there are no other impacts.		
	Corrective Action:	None.		

MILESTONE EXCEPTION REPORT

Number/ WBS	Level	Milestone Title	Baseline Date	Forecast Completion Date
M-16-01E	**EA**	Complete N Reactor/N Area Deactivation	4/01/98	7/31/98
1.6.2.09	**Cause:**	Fuel fragment disposition issues; increased N Basin removal quantities; increased personnel exposure requirements (causing addition of concrete cover over the basin); capability of ETF to unload water less than planning criteria.		
	Impact:	The completion date is delayed; there are no other impacts.		
	Corrective Action:	None.		
M-16-03C	**EA**	Submit to EPA and Ecology 618-4 Burial Ground Exc. Rpt as final	4/01/98	7/30/98
1.6.1.03	**Cause:**	Replanning due to work scope outside of waste profile; additional worker protection requirements slowed work.		
	Impact:	The completion date is delayed; there are no other impacts.		
	Corrective Action:	None.		

COST VARIANCE ANALYSIS

WBS	COST VARIANCE: $3.6M

SCHEDULE VARIANCE ANALYSIS

WBS	SCHEDULE VARIANCE: ($4.0M)